



Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

February 3, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Dick Greco
Mayor
City of Tampa
306 East Jackson
Tampa, FL 33602

Re: McKay Bay Refuse-to-Energy Facility Improvements Project
DRAFT Permit No.: 0570127-002-AXC


Dear Mr. Greco:

Enclosed is one copy of the Draft Modification to the Permit for Prevention of Significant Deterioration of Air Quality (PSD Permit) for the City of Tampa McKay Bay Refuse-to-Energy Facility located at 107 North 34th Street, Tampa, Hillsborough County, FL 33605. The Department's Intent to Issue Permit Modification, the Draft Permit Modification, Technical Evaluation and Preliminary Determination, and the "PUBLIC NOTICE OF INTENT TO ISSUE PERMIT MODIFICATION" are also included.

The "PUBLIC NOTICE OF INTENT TO ISSUE PERMIT MODIFICATION" must be published within 30 (thirty) days of receipt of this letter. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the permitting authority's proposed action to A.A. Linero, P.E., Administrator, New Source Review Section, at the above letterhead address. If you have any other questions, please contact Joseph Kahn, P.E. at 850/921-9519.

Sincerely,


for C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/jk

Enclosures

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Printed on recycled paper.

In the Matter of an
Application for Permit by:

City of Tampa
306 E. Jackson Street
Tampa, Florida 33602

DRAFT Permit No. PSD-FL-086(A)
Refuse-to-Energy Facility
Hillsborough County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit modification (copy of DRAFT Permit modification attached) for the proposed project, detailed in the application specified above, for the reasons stated below.

The applicant, City of Tampa, applied on September 11, 1997 to the Department for a modification of the Prevention of Significant Deterioration Permit (PSD Permit) originally issued in 1982 by the United States Environmental Protection Agency. The modification is to: replace and improve the air pollution control system to comply with the requirements of 40 CFR 60 Subpart Cb, Emission Guideline and Compliance Times for Municipal Waste Combustors That Are Constructed on or before December 19, 1995; specify which materials can be burned; and define process throughput parameters at the City's nominal 1000 ton per day Solid Waste Energy Recovery Facility located at 107 North 34th Street, Tampa, Florida 33605.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that a PSD permit modification is required for the proposed work and other changes requested by the applicant.

The Department intends to issue this permit modification based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed "Public Notice of Intent to Issue PERMIT MODIFICATION". The notice shall be published one time only within 30 (thirty) days in the legal advertisement section of a newspaper of general circulation in the area affected. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 904/488-1344; Fax 904/ 922-6979) within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit pursuant to Rule 62-103.150 (6), F.A.C.

The Department will issue the FINAL Permit Modification, in accordance with the conditions of the enclosed DRAFT Permit Modification unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed DRAFT Permit issuance action for a period of 14 (fourteen) days from the date of publication of "PUBLIC NOTICE OF INTENT TO ISSUE PERMIT MODIFICATION." Written comments should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit Modification, the Department shall issue a Revised DRAFT Permit Modification and require, if applicable, another Public Notice.

The Department will issue the permit modification with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S. Mediation is not available for this action.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9730, fax: 904/487-4938. Petitions must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the action or proposed action addressed in this notice of intent.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice of intent. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.


The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h)

A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.


for C. H. Fancy, P.E., Chief
Bureau of Air Regulation

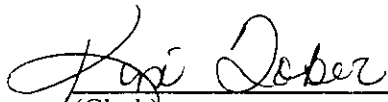
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE PERMIT MODIFICATION (including the PUBLIC NOTICE, and the DRAFT permit modification) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 2-5-98 to the person(s) listed:

- Dick Greco, Mayor, City of Tampa *
- Daniel Kleman, Hillsborough County Administrator
- Brian Beals, EPA
- John Bunyak, NPS
- Douglas W. Fredericks, P.E.
- Jerry Campbell, HCEPC
- Bill Thomas, SWD
- Don Elias, RTP
- David S. Dee, Landers & Parsons

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.


(Clerk) 2-5-98
(Date)

Florida Department of Environmental Protection

Is your RETURN ADDRESS completed on the reverse side?	SENDER: ■ Complete items 1 and/or 2 for additional services. ■ Complete items 3, 4a, and 4b. ■ Print your name and address on the reverse of this form so that we can return this card to you. ■ Attach this form to the front of the mailpiece, or on the back if space does not permit. ■ Write "Return Receipt Requested" on the mailpiece below the article number. ■ The Return Receipt will show to whom the article was delivered and the date delivered.	I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.
	3. Article Addressed to: Dick Gregg, Mayor City of Tampa 306 E. Jackson Tampa, FL 33602	4a. Article Number P 265 659 289 4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD 7. Date of Delivery
	5. Received By: (Print Name) 6. Signature: (Addressee or Agent) X	8. Addressee's Address (Only if requested and fee is paid)

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PS Form 3811, December 1994

Domestic Return Re

P 265 659 289

US Postal Service
Receipt for Certified Mail
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Sent to	Dick Gregg
Street & Number	City of Tampa
Post Office, Box, & ZIP Code	Mckay Bay
Postage	Tampa, FL
Certified Fee	
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Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	0570127-002 2-5-98

PS Form 3800, April 1995

**NOTICE TO BE PUBLISHED
IN THE NEWSPAPER**

PUBLIC NOTICE OF INTENT TO ISSUE PERMIT MODIFICATION

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DRAFT Permit No. PSD-FL-086 (A)
City of Tampa McKay Bay Refuse-to-Energy Facility
Hillsborough County

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit modification to the City of Tampa to: replace and improve the air pollution control system; add natural gas auxiliary burners for improved combustion control; define process throughput parameters; increase amount of waste that can be burned on a short-term basis, and specify which materials can be burned at its solid waste energy recovery facility located at 107 North 34th Street, Tampa, Hillsborough County, Florida. A review for the Prevention of Significant Deterioration (PSD) and Best Available Control Technology determination were not required pursuant to Rule 62-212.400. and 410., F.A.C. The applicant's name and address are: City of Tampa, 306 E. Jackson Street, Tampa, Florida 33602.

The purpose of the project is to comply with 40 C.F.R. 60, Subpart Cb - Emission Guideline and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before December 19, 1995. The Emission Guideline was developed pursuant to Section 129 (Solid Waste Combustion) of the Clean Air Act as amended in 1990. These requirements are incorporated in Department Rule 62-204.800(8), F.A.C.

The facility consists of four nominal 250 ton per day (TPD) mass burn furnaces with rotary kilns, waste heat boilers, ash discharge system, a single 22.5 megawatt steam electric generator, and air pollution control equipment. The proposed improvements consist of upgrading the existing four mass-burn units to achieve greater combustion control and improve combustion efficiency, as well as replacing the existing electrostatic precipitators with lime spray dryer absorbers and fabric filters. This will add acid gas control for sulfur dioxide and hydrogen chloride, improve particulate (PM/PM₁₀) collection efficiency, and enhance collection of heavy metals, including lead and cadmium. An activated carbon injection system will be installed for additional mercury control. Nitrogen oxides will be controlled by selective non-catalytic reduction. Combustion controls and auxiliary natural gas burners will be incorporated to minimize formation of dioxins and furans, volatile organic compounds, and carbon monoxide.

The original PSD permit contained limits and annual testing requirements only for sulfur dioxide, nitrogen oxides, lead, fluoride, mercury and beryllium. Specific limits and testing requirements are proposed for all previously mentioned pollutants and also for particulate matter, opacity, hydrochloric acid, carbon monoxide, cadmium and dioxins/furans. Continuous emission monitors will be installed for sulfur dioxide, nitrogen oxides, and carbon monoxide.

The units were originally permitted to utilize "refuse such as garbage and trash" as defined in the Department's solid waste rules. The modified permit will specify the wastes as: solid waste including municipal solid waste (MSW) as defined at 40 CFR 60.51b and Section 403.706(5), F.S.; segregated wastes such as records and documents, non-hazardous contraband, clean wood and land clearing debris, packaging materials, clothing and fabric remnants and certain types of floor covering; segregated waste tires (not to exceed 3 percent of the total wastes received); other segregated wastes (not to exceed 5 percent of the total wastes received) such as construction and demolition debris, oil spill debris, expired or off-spec packaged or unpackaged consumable goods (e.g. pharmaceuticals), consumer products, waste materials containing oil, used oil and filters and certain other wastes similar to MSW. The precise nature of the wastes is detailed in the draft permit package. By limiting the amount of segregated materials combusted at the facility, the Department has reasonable assurance that the overall composition of the wastes burned will be within the typical characteristics of MSW in terms of heating value, moisture, ash, and emissions characteristics.

Presently, the permitted waste throughput is 1000 TPD for the facility on an average annualized basis. The maximum allowable heat input rate per unit will be limited to 120 mmBtu/hr at a daily waste throughput of 288 TPD (1,152 TPD for the facility), with a long-term limit of 250 TPD for each unit.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

The Department will issue the FINAL Permit Modification, in accordance with the conditions of the DRAFT Permit Modification unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed DRAFT Permit Modification issuance action for a period of 30 (thirty) days from the date of publication of this Notice. Written comments should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit Modification, the Department shall issue a Revised DRAFT Permit Modification and require, if applicable, another Public Notice.

The Department will issue FINAL Permit Modification with the conditions of the DRAFT Permit Modification unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S. The procedures for petitioning for a hearing are set forth below. Mediation is not available for this action.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9370, fax: 904/487-4938. Petitions must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner; the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the Department's action or proposed action addressed in this notice of intent.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice of intent. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4
Tallahassee, Florida, 32301
Telephone: 904/488-1344
Fax: 904/922-6979

Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: 813/744-6100
Fax: 813/744-6084

Hillsborough County Environmental
Protection Commission
1900 Ninth Avenue
Tampa, Florida 33605
Telephone: 813/272-5960
Fax: 813/272-5157

**NOTICE TO BE PUBLISHED
IN THE NEWSPAPER**

The complete project file includes the Draft Permit Modification, the application, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 904/488-1344, for additional information.

**TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION**

City of Tampa

**McKay Bay Refuse-to-Energy Facility
Tampa, Florida
Hillsborough County**

**Air Construction Permit No. 0570127-002-AC
PSD-FL-086(A)**

**Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation**

February 3, 1998

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

1. APPLICATION INFORMATION

1.1 *Applicant Name and Address*

City of Tampa
306 East Jackson
Tampa, FL 33602

Authorized Representative:
Mr. Dick Greco, Mayor

1.2 *Reviewing and Process Schedule*

9/16/97: Date of Receipt of Application
10/14/97: Department's Incompleteness Letter
10/31/97: City of Tampa's Response to Department's letter of 10/14/97
11/5/97: Meeting with DEP, City of Tampa, Tampa's Consultants and Attorney
11/13/97: Additional Information Provided to Department by City's Consultants
11/13/97: Application Complete
12/16/97: Additional Information Provided to Department by City's Consultants
12/22/97: Additional Information Provided to Department by City's Consultants
1/12/98: Additional Information Provided to Department by City's Consultants
1/15/98: Additional Information Provided to Department by City's Consultants
1/21/98: Letter of January 14, 1998 from EPA to David Dee Provided to Department by Mr. Dee

2. FACILITY INFORMATION

2.1 *Facility Location*

City of Tampa
McKay Bay Refuse-to-Energy Facility
107 North 34th Street
Tampa, FL 33605-6210

The City of Tampa plans to upgrade the existing four mass-burn combustion units to achieve greater combustion control and improve combustion efficiency, as well as replace air pollution control equipment, to comply with the emission limits and monitoring requirements of the Federal emission guidelines for large municipal waste combustors, 40 CFR 60 Subpart Cb.

The UTM coordinates of this facility are Zone 17 ; 360.0 km E ; 3091.9 km N.

2.2 *Standard Industrial Classification Code (SIC)*

Major Group No.	49	Electric, Gas and Sanitary Services
Group No.	495	Sanitary Services
Industry No.	4953	Refuse Systems

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

2.3 Facility Category

This facility makes electricity by burning solid waste in four furnaces, recovering the heat as steam, and expanding it in a steam electrical generator. The solid waste burned is typically characterized as "refuse such as trash and garbage" or as municipal solid waste (MSW). The facility is permitted to burn up to 288 tons per day (250 TPD on an average annualized basis) in each of four units. Certain segregated wastes consisting of materials typically found in MSW are mixed into the waste while maintaining the overall characteristics of the waste within the typical ranges of heat and moisture content as well as emission characteristics. The electricity is sold to Tampa Electric Company.

The facility is classified as a major or Title V source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), or volatile organic compounds (VOC) equal or exceed 100 tons per year (TPY). It is also a major source because emissions of air toxics, such as hydrogen chloride (HCl) or hydrogen fluoride (HF), equal or exceed 10 TPY individually or 25 TPY in the aggregate.

Municipal incinerators are included in the list of the 28 Major Source Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a major facility with respect to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD). Accordingly, the facility was issued a PSD permit, including a determination of Best Available Control Technology (BACT), by the United States Environmental Protection Agency (EPA) on July 2, 1982.

Per Table 62-212.400-2, modifications at existing major facilities resulting in "Significant Emission Rate" increases greater than: 100 TPY of CO; 40 TPY of NO_x, VOC, or SO₂; 25/15 TPY of PM/PM₁₀; 7 TPY of sulfuric acid mist (SAM); 0.1 TPY of mercury (Hg); 3 TPY of fluorides (F), or 0.6 TPY of lead (Pb) also require a PSD permit and a BACT determination.

3. PROJECT DESCRIPTION

3.1 Construction and Retrofit:

The applicant requested an air construction permit to substantially replace or rebuild the municipal waste combustion facility. This retrofit project will upgrade the existing four mass-burn combustion units to achieve greater combustion control and improve combustion efficiency, as well as replace air pollution control equipment, to comply with the emission limits and monitoring requirements of the Federal emission guidelines for large municipal waste combustors, 40 CFR 60 Subpart Cb - Emission Guideline and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before December 19, 1995. The Emission Guideline for Municipal Waste Combustors (MWCs) was developed pursuant to Section 129 (Solid Waste Combustion) of the Clean Air Act as amended in 1990. These requirements are incorporated in Department Rule 62-204.806(8), F.A.C.

The existing grate furnaces, rotary kilns, electrostatic precipitators and ID fans will be replaced. New boiler systems will be installed to recover heat from the waste combustion. The boiler tubes

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

may be integral to the furnace design (waterwall furnace) or may be constructed to recover heat by convective heat transfer (as with a refractory furnace with waste heat boiler). The existing waste heat boilers may be reused in the new boiler systems. The new air pollution control equipment for each line consists of a spray dryer absorber, a fabric filter, and activated carbon injection system. A selective non-catalytic reduction system (SNCR) and auxiliary gas burners will be installed in the furnaces. A new ID fan will be installed on each line to accommodate the additional pressure losses associated with the new control equipment, as well as match the new combustion air requirements of the furnace. The two existing 165-foot stacks will be replaced with a single, multi-flued stack, 201 feet tall.

Additional combustion control systems with continuous monitoring devices for combustion and process parameters (temperatures, steam production, reagent injection rates, etc.) and SO₂, NO_x and CO, and natural gas fired auxiliary burners will be installed to improve combustion efficiency and control.

The SNCR system involves injection of liquid ammonia (NH₃) or urea into the combustion gases. Reaction between the NH₃ or urea and NO_x in the exhaust results in formation of molecular nitrogen, thereby lowering NO_x emissions. Activated carbon is also injected to control mercury and dioxin/furan emissions. The gases are then contacted in a vessel with a slurry of sprayed lime (calcium hydroxide). Acid gases, including hydrogen fluoride (HF), SO₂ and HCl are neutralized and absorbed into the spray. The spray is dried by the residual heat in the gas stream and conveyed by the exhaust gases to the fabric filter baghouses where particulate matter, including flyash and product from the absorbers, is removed. The exhaust gases are cooled by the spray. Additional pollutant removal occurs on the filter cake which builds up within the baghouses. Cleaned exhaust gases exit the stack. The flyash is conveyed to the bottom ash handling system for further handling.

The new air pollution control equipment will require storage silos for lime and carbon. Particulate matter emissions from silo filling will be controlled with fabric filters. Aqueous ammonia (or urea) will be used as the NO_x control reagent for the SNCR system; this will require a small tank for storage, with an insignificant potential emission. New bottom ash and fly ash handling systems will be installed, and a new ash storage building will be constructed. Fugitive ash emissions will be controlled by enclosing the ash transfer and storage system.

3.2 *Additional Requests*

In addition to the physical changes described above, a number of revisions are requested which require modifications of the existing PSD permit or a construction permit to establish federally enforceable conditions. These include:

- Specifying steam flow as the main process throughput parameter to be monitored.
- Specifying an operating window around the nominal rating of the stoker and boiler.
- Increasing the rated short-term capacity of each unit from 250 to 288 TPD (long-term capacity will be limited at 250 TPD, rolling 12-month average), heat input from 104 to 120 million Btu per hour (mmBtu/hr), and setting steam flow at 72,800 pounds per hour (lb/hr). (The permit will limit long-term mass capacity and steam flow.)

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- Providing for combustion of segregated waste streams and defining more precisely the types of wastes that may be burned.
- Deleting the VOC limitations of the operation permit and substituting limitations on CO instead.
- Specifying the requirements of the emission guidelines for fugitive PM emissions from the ash handling and storage processes, which constitute MACT, be substituted for the PM RACT requirements of Rule 62-296.711, F.A.C. (Materials Handling), pursuant to Rule 62-296.711(2)(c), F.A.C.

Steam Flow

The first request is essentially to designate steam as the main throughput parameter on a short-term basis. This is the most precise and accurate parameter and is easily determined. It is also consistent with both the most recent regulatory requirements and industry practice. However, because the plant was authorized and the furnaces are rated on a mass basis, it is still important to maintain some form of mass limit. This is most accurately accomplished by a long-term average based on the weight of actual material delivered to the facility. Short term throughput rates can be estimated from the short-term steam production and applicable heating values for the materials combusted.

Operating Window

The City essentially wishes to operate the plant within a so-called 115 percent (%) "operating window," normalized around the previous nominal capacity of 250 TPD at a waste heat content of 5000 Btu per pound (Btu/lb). Because of the wide range in waste heat content, the City wants sufficient flexibility to burn more waste to achieve the desired steam production, particularly when waste heat content is low. This is a common and recognized industrial and regulatory practice. The 115% window results because the emission guideline defines capacity as 110% of the maximum heat input established during successful testing, and the consultant estimates that the maximum heat input could be approximately 5% above the nominal capacity. The City's request is represented by the following schedule of waste throughput and heat input and heat capacity:

MSW THROUGHPUT (TPD)	HEAT CAPACITY (Btu/lb)	HEAT INPUT (mmBtu/hr)
200	6000	100
239.6	6000	119.8
200	5000	83.3
250	5000	104.2 ⁽¹⁾
287.5	5000	119.8
263.2	3800	83.3
287.4	3800	91.0

(1) This operating point represents the nominal capacity of each unit.

Permitted Wastes/Fuels

The units were originally permitted to burn "municipal waste" pursuant to the PSD permit, while the operating permit restricts the units to "municipal solid waste" and waste oil from spill cleanup

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

operations at the Port Authority. The City requested the definition of allowable wastes be expanded and clarified to be consistent with other permitted facilities such as Hillsborough County and Pasco County. Such wastes include municipal solid waste and other similar wastes and certain segregated wastes. Wastes will be limited as follows:

The primary fuel for the facility is municipal solid waste (MSW), including the items and materials that fit within the definition of MSW contained in either 40 CFR 60.51b or Section 403.706(5), Florida Statutes (1995). Subject to the limitations contained in this permit, the authorized fuels for the facility also include the other solid wastes that are not MSW which are described below. However, the facility shall not burn:

- a) those materials that are prohibited by state or federal law;
- b) those materials that are prohibited by this permit;
- c) lead acid batteries;
- d) hazardous waste;
- e) nuclear waste;
- f) radioactive waste;
- g) sewage sludge;
- h) explosives.

The fuel may be received either as a mixture or as a single-item stream (segregated load) of discarded materials. If the facility intends to use an authorized fuel that is segregated non-MSW material, the fuel shall be either:

- a) well mixed with MSW in the refuse pit; or
- b) alternately charged with MSW in the hopper.

The facility operator shall prepare and maintain records concerning the types and quantities of all segregated loads of non-MSW material which are received and used as fuel at the facility, and subject to a percentage weight limitation, below. For the purposes of this permit, a segregated load is defined to mean a container or truck that is primarily or exclusively filled with a single item or type of waste material.

To ensure that the facility's fuel does not adversely affect the facility's combustion process or emissions, the facility operator shall:

- a) comply with good combustion operating practices in accordance with 40 CFR 60.53b;
- b) install, operate and maintain continuous emissions monitors (CEMS) for oxygen, carbon monoxide, sulfur dioxide, oxides of nitrogen and temperature in accordance with 40 CFR 60.58b; and
- c) record and maintain the CEMS data in accordance with 40 CFR 60.59b.

These steps shall be used to ensure and verify continuous compliance with the emissions limitations in this permit.

Natural gas may be used as fuel during warm-up, startup, shutdown, and malfunction periods, and at other times when necessary and consistent with good combustion practices.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Subject to the conditions and limitations contained in this permit, the following other solid waste materials may be used as fuel at the facility (i.e. the following are authorized fuels that are non-MSW material):

- a) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons and microfilm);
- b) Contraband which is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste, or otherwise prohibited at the facility. For the purposes of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods;
- c) Wood pallets, clean wood, and land clearing debris;
- d) Packaging materials and containers;
- e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; or
- f) Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings.

Subject to the conditions and limitations contained in this permit waste tires may be used as fuel at the facility. The total quantity of waste tires received as segregated loads and burned at the facility shall not exceed 3%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average [in accordance with a specific condition of the permit].

Subject to the conditions and limitations contained in this permit, the following other solid waste materials may be used as fuel at the facility (i.e. the following are authorized fuels that are non-MSW material). The total quantity of the following non-MSW material received as segregated loads and burned at the facility shall not exceed 5%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average [in accordance with a specific condition of the permit].

- a) Construction and demolition debris.
- b) Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes, and absorbents.
- c) Items suitable for human, plant or domesticated animal use, consumption or application where the item's shelf-life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and person care products cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.
- d) Consumer-packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
- e) Waste materials that:

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

(i.) are generated in the manufacture of items in categories (c) or (d), above and are functionally or commercially useless (expired, rejected or spent);
or

(ii.) are not yet formed or packaged for commercial distribution.

Such items or materials must be substantially similar to other items or materials routinely found in MSW.

f) Waste materials that contain oil from:

(I) the routine cleanup of industrial or commercial establishments and machinery; or

(ii) spills of virgin or used petroleum products.

Such items or materials include but are not limited to rags, wipes, and absorbents.

g) Used oil and used oil filters. Used oil containing a PCB concentration equal or greater than 50 ppm shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).

h) Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval of the Department.

VOC/CO Limitations

The applicant requested deleting the VOC limitation of the operation permit and substituting limitations on CO instead. The applicant proposed this change to be consistent with the requirements of the emission guidelines and to substitute an easily measured parameter, CO, for one that less easily measured, VOC. Emission of VOCs and CO are related to the quality of the combustion practices. Good combustion will result in low emissions of both VOCs and CO, so either is an indication of combustion quality. CO will be continuously monitored after the retrofit is completed, so combustion quality can be monitored continuously through this parameter. This is not possible using VOCs as the parameter. The VOC limitation did not appear in the PSD permit. The VOC limitation has been removed in this permit and the CO limitation has been imposed pursuant to the applicant's request.

Substitution of MACT for PM RACT

The applicant requested specifying that the requirements of the emission guidelines for fugitive PM emissions from the ash handling and storage processes, which constitute MACT, be substituted for the PM RACT requirements of Rule 62-296.711, F.A.C. (Materials Handling), pursuant to Rule 62-296.711(2)(c), F.A.C. The PM RACT rule, Rule 62-296.711, F.A.C. (Materials Handling), requires that no visible emissions be emitted by an emissions unit related to materials handling. This rule is applicable to the ash handling facilities at the site. Installation of process controls for ash handling, which principally consist of enclosure of ash transport and handling facilities, will result in minimal fugitive emissions of ash. The MACT requirements of the emission guidelines allow for visible emissions to occur no more than 5% of the time, with exceptions for maintenance or repair, rather than limiting those emissions to 5% opacity. Rule 62-296.711(2)(c), F.A.C., grants the Department the authority to impose some other standard for RACT for materials handling operations. The Department will impose the MACT requirements

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

for the ash handling system to be substituted for the RACT requirements of Rule 62-296.711, F.A.C., pursuant to its rule authority.

4. PROCESS DESCRIPTION

The facility is a waste-to-energy installation employing mass burning of solid waste, heat recovery as superheated steam, and power generation in a steam electric cycle. Other than landfilling, this is the most common method of solid waste disposal in the United States. There are twelve such facilities in the State of Florida. Following is a description of the process.

Waste is received via transfer, roll-off, or collection vehicles. Upon arrival, each vehicle is weighed at the scale house and the waste is categorized. Any unacceptable waste is diverted at this time. All acceptable waste is taken to the Refuse Receiving Building, where it is deposited into the refuse storage pit. The refuse is stored at this location until needed to charge the combustion units.

Charging of the combustion units is accomplished using overhead cranes equipped with grapples. These grapples stack, mix, relocate waste within the pit and transfer it into the feed hoppers serving each unit. Currently, the waste enters the four refuse-fired steam generators, each of which consists of an furnace grate and subsequent rotary kiln combustor, with a waste heat boiler. The furnace grate is the primary combustion area with combustion completed in the rotary kiln. After the retrofit is completed, waste will be combusted in a state-of-the-art waterwall or refractory lined furnace, with waste agitated by a moving grate. Heat will be recovered with new boiler sections.

Combustion air is drawn from the refuse tipping area (assisting in odor control) and conveyed through the gas side of the air preheater and into the refuse-fired generators where the waste is combusted. Exhaust gases from each refuse-fired combustors pass through heat recovery devices and are ducted to the air pollution control system which presently consists of an electrostatic precipitator (ESP) but which will be replaced by a spray dryer absorber and fabric filter. Treated gases are exhausted to the atmosphere via stacks. The two existing 165-foot stacks will be replaced with a single, multi-flued stack, 201 feet tall. Bottom ash from the furnaces is removed, quenched and processed for metal recovery and disposal. The current fly ash silo will be replaced with a new ash management building that will be used for storage and transfer of both bottom and fly ash.

The superheated steam enters the turbine where it is expanded. The turbine powers a single 22.5 megawatt electric power generator. The electric power is introduced into the electrical grid and is purchased by Tampa Electric Company. Exhaust steam from the turbine is condensed and the water is cooled in cooling towers. Boiler make-up water is provided from the municipal water supply. It undergoes treatment including demineralization. It is transferred to the deaerator, which also receives water from the condensers, air preheaters, and feedwater heaters. Boiler feedwater is provided from the deaerator.

5. RULE APPLICABILITY

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

The proposed project is subject to preconstruction review requirements under the provisions of Chapter 403, Florida Statutes, and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.).

With the improved combustion controls and air pollution control equipment to be installed, the project is expected to reduce air emissions substantially. The project consists of extensive physical changes and the applicant plans to increase the production rate by the expanded operating window and plans to burn a more varied slate of wastes. Because of these changes, the project can be considered a modification under Chapters 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). Therefore the project must be assessed for permitting requirements and preconstruction review requirements. Because some of these changes, including the proposed emission limits, affect existing PSD permit conditions, a permit modification is required whether or not the project constitutes a facility or source modification.

The facility is located in an area (Hillsborough County) designated "unclassifiable" for SO₂, "maintenance" for Ozone (O₃), PM, and lead (Pb), and "attainment" for all the other criteria pollutants (Rule 62-204.360, F.A.C.).

Pursuant to 40 CFR 52.21(b)(2)(i) defines a major modification to mean any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act. Pursuant to the Puerto Rican Cement decision, the determination of significant net emissions increase is made via comparison of past actual emissions to future potential emissions.

Despite the small production increase (on a short-term basis) and more varied waste slate requested concurrently with the control project, actual emissions of PM, CO, HF, VOC, SO₂, and NO_x will probably decrease because of the improvements in combustion control and pollution control equipment. A comparison of past actual to future potential emissions (refer to Section 6.2) indicates that there will be no significant increases with respect to PSD. The permit will include limitations on emissions of SO₂, NO_x and CO on a rolling 12 month basis to limit increases in potential emissions of these pollutants to a level below the PSD significance criteria.

The main rule applicable to this project is 40CFR60, Subpart Cb - Emission Guideline and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before December 19, 1995 (the Emission Guideline). Physical or operational changes made to an existing unit primarily for the purpose of compliance with the Emission Guideline are not considered in determining whether the unit is a modified or reconstructed facility under 40CFR60, Subparts Ea or Eb. The latter subparts are Standards of Performance for MWCs on which construction commenced after December 20, 1989 and September 20, 1994, respectively. The Emission Guideline and the other Subparts are all adopted by reference in Rule 62-204.800(7) and (8), F.A.C.

This facility is not subject to the Maximum Achievable Control Technology (MACT) for Hazardous Air Pollutants (HAPs) requirements pursuant to Section 112(g) of the Clean Air Act since replacing the air pollution control equipment does not constitute reconstruction of a major source. The Emission Guideline under Subpart Cb, with which the facility will comply, was

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

developed pursuant to Section 129 (Solid Waste Combustion) of the Clean Air Act as amended in 1990. It requires and achieves the same objectives as MACT for existing facilities.

This facility shall comply with all applicable provisions of the following regulations:

- 40 CFR 60 Subpart Cb Emissions Guidelines and Compliance Times for Existing Municipal Waste Combustors Constructed on or Before December 19, 1995.
- 40 CFR 51 Subpart P Protection of Visibility.
- 40 CFR 60, Subpart Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.
- 40 CFR 60, Subpart E Standards of Performance for Incinerators.
- 40 CFR 60, Subpart A General Provisions
- 40 CFR 61, Subpart C National Emission Standard for Beryllium
- 40 CFR 64 Compliance Assurance Monitoring
- 40 CFR 50 National Primary and Secondary Ambient Air Quality Standards

This facility is also subject to the applicable requirements related to used fuels and wastes given in 40CFR279 and 40CFR261 (July 1996 version), which are adopted by reference in Chapters 62-710 and 730, F.A.C.

The emission units affected by this replacement shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations) and, specifically, the following chapters and rules:

- Chapter 62-4 Permits
- Rule 62-204.220 Ambient Air Quality Protection
- Rule 62-204.240 Ambient Air Quality Standards
- Rule 62-204.260 Prevention of Significant Deterioration Increments
- Rule 62-204.360 Designation of Prevention of Significant Deterioration Areas
- Rule 62-204.800 Federal Regulations Adopted by Reference
- Rule 62-210.300 Permits Required
- Rule 62-210.350 Public Notice and Comments
- Rule 62-210.370 Reports
- Rule 62-210.550 Stack Height Policy
- Rule 62-210.650 Circumvention
- Rule 62-210.700 Excess Emissions
- Rule 62-210.900 Forms and Instructions
- Rule 62-212.300 General Preconstruction Review Requirements
- Rule 62-212.400 Prevention of Significant Deterioration
- Rule 62-212.410 Best Available Control Technology
- Rule 62-296.320 General Pollutant Emission Limiting Standards
- Rule 62-297.310 General Test Requirements
- Rule 62-297.400 EPA Methods Adopted by Reference

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- Rule 62-297.401 EPA Test Procedures
- Rule 62-296.410(3) Specific Emission Limiting and Performance Standards Requirements for Incinerators
- Rule 62-296.416 Waste to Energy Facilities
- Rule 62-296.711 Reasonably Available Control Technology (RACT) for Materials Handling, Sizing, Screening, Crushing and Grinding Operations
- Rule 62-297.520 EPA Performance Specifications
- Rule 62-297.570 Test Reports
- Chapter 62-256 Open Burning and Frost Protection Fires

6. PROJECTED EMISSIONS

6.1 Emission limits

The maximum allowable short-term emission limits for the each unit before and after implementation of the project are as follows:

POLLUTANT	PERMITTED LIMIT	PROPOSED LIMIT
Particulate Matter (PM)	0.025 gr/dscf @ 12% CO ₂ and 27.9 lb/hr (all four units combined)	0.012 gr/dscf @ 7% O ₂
Sulfur Dioxide (SO ₂)	170.0 lb/hr (all four units combined)	29 ppmdv @ 7% O ₂ or 75% removal, not to exceed 100 ppmdv @ 7% O ₂ (24-hr)
Nitrogen Oxides (NO _x)	300.0 lb/hr (all four units combined)	205 ppmdv @ 7% O ₂ (24-hr)
Carbon Monoxide (CO)	None	100 ppmdv @ 7% O ₂ (4-hr)
Volatile Organic Compounds (VOC)	9.0 lb/hr (all four units combined)	none - CO is surrogate
Lead (Pb)	3.1 lb/hr (all four units combined)	440 ug/dscm @ 7% O ₂
Mercury (Hg)	0.6 lb/hr (all four units combined)	70 ug/dscm @ 7% O ₂ or 85% removal, not to exceed 135 ug/dscm @ 7% O ₂
Cadmium (Cd)	None	40 ug/dscm @ 7% O ₂
Beryllium (Be)	0.00046 lb/hr (all four units combined)	0.000115 lb/hr
Hydrogen Chloride (HCl)	None	29 ppmdv @ 7% O ₂ or 95% removal, not to exceed 100 ppmdv @ 7% O ₂
Hydrogen Fluoride (HF)	6.0 lb/hr (all four units combined)	1.5 lb/hr
Dioxins/Furans	None	30 ng/dscm @ 7% O ₂

6.2 Annual Emissions

Permitted and estimated past actual emissions in tons per year (TPY) compared with future potential emissions following implementation of the project for PSD regulated pollutants are as follows¹:

POLLUTANT	PERMITTED	ACTUAL	FUTURE	CHANGE	PSD SIGN
Particulate Matter (PM, PM ₁₀)	122	43	49	6	25
Sulfur Dioxide (SO ₂)	745	421	460 ²	39	40
Nitrogen oxides (NO _x)	1314	640	679 ²	39	40
Carbon Monoxide (CO)	no limit	87 ³	185 ²	98	100
Volatile Organic Compounds (VOC)	39	8	no limit	na	40
Lead (Pb)	14	1	0.8	-0.2	0.6
Mercury (Hg)	3	0.6	0.2	-0.4	0.1
Beryllium (Be)	0.002	0.0001	0.002	0	0.0004
Fluoride (F)	26	na	26	0	3

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

1. Past actual and future potential emissions are detailed in the City's McKay Bay Refuse to Energy Facility application submitted on September 16, 1997 and additional information response received on October 31, 1997. Based on 90.9% facility availability.
2. Rolling 12-month emission limits will be imposed for sulfur dioxide, NOx and CO to maintain annual emissions below PSD significance levels.
3. Based on one test, 1985.

A comparison of future potential emissions with past actual emissions indicates there are no PSD-significant increases of any pollutant. Rolling 12-month emission limits will be imposed for sulfur dioxide, NOx and CO to maintain annual emissions of those pollutants below PSD significance levels. The short-term limits for those pollutants will be the limits imposed by the emission guideline.

7. CONTROL TECHNOLOGY ASSESSMENT

7.1 *Particulate Matter (PM)*

The fabric filter baghouses will replace the existing ESPs and will be designed to control particulate emission including heavy trace metals. These devices are specifically required by the Emission Guideline. They will also provide a measure of additional acid gas control as the flue gases pass through the unreacted lime captured on filter bags.

The proposed limit of 0.012 grains per dry standard cubic feet at 7 percent oxygen (gr/dscf @ 7% O₂) is lower than the presently permitted value of 0.025 gr/dscf @ 12% carbon dioxide (CO₂). According to actual data submitted by the County, the existing ESP has performed better (0.013 gr/dscf @ 12% CO₂) than required, almost as well, on average, as required by the Emissions Guideline. A PSD-significant increase does not occur (per Section 6.2). Permitted emissions will be almost the same as past actual but the new control equipment will be superior to the old, so actual emissions are expected to decrease.

According to information presented by another applicant installing similar emission controls (Hillsborough County), the Pasco County facility, operated by Ogden-Martin (one of the potential bidders on the McKay Bay project), achieves even lower emissions with the same type of fabric filters that will be installed at the McKay Bay facility. Annual PM/PM₁₀ emissions at Ogden-Martin, Pasco County were only 3 TPY.

Since the Pasco County facility is rated at 900 TPY, equivalent emissions for the McKay Bay facility would be 3.3 TPY. Even if the City's facility actually emits at three times the adjusted rate of the Ogden Pasco facility, future actual emissions will still decrease by 33 tons per year (see Section 6.2).

7.2 Acid Gases

SO₂, HCl, sulfur trioxide (SO₃), sulfuric acid mist (SAM or H₂SO₄), and hydrogen fluoride (HF) are acid gases characteristic of municipal solid waste combustion. SO₂ is formed in the furnace when sulfur in the solid waste oxidizes during combustion. The spray dryer absorber together with the fabric filter system will be used to reduce SO₂ emissions by contacting the exhaust gases with an aerosol of slaked lime. This technology is a specific requirement of the Emission Guideline. The reaction will produce a dried, relatively free-flowing powder, consisting of unreacted lime, salts, and fly ash. The most prevalent salts will be calcium sulfite (CaSO₃), and

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

calcium sulfate (CaSO_4). The absorber will also provide a measure of control for organics and volatile metal emissions by cooling off the flue gases.

HCl and HF are formed during the combustion of waste materials containing chlorinated compounds (typically plastics) and fluorinated compounds (e.g. Teflon and toothpaste). The same absorption system will be used to control emissions of these acid gases. The products are ultimately captured as particulate calcium chloride (CaCl_2), or calcium fluoride (CaF) in the fabric filter baghouses.

The Department expects SO_2 emissions to be substantially less than permitted based on the performance of other MWCs employing similar controls. The installation of the SO_2 CEMS will continuously record emissions data and insure that SO_2 emission limit will not be exceeded. The acid gas control equipment is capable of achieving at least the required 75 % removal efficiency for SO_2 and over 95% of HCl.

Per Section 6.2, emissions of fluoride appear to remain the same based on a "past actual to future potential" comparison. Because the project will add acid gas control, which will control hydrogen fluoride (HF), the Department expects actual annual emissions of fluoride to decline. Based on Department records, the 900 TPD Ogden-Martin Pasco facility emits 0.26 TPY of F. Scaling this value up to that of the 1000 TPD County facility and multiplying by a safety factor of three results in an actual annual emission estimate of 0.9 TPY for F. This represents a substantial decrease in emissions.

Similarly, other acid gas actual emissions will decrease substantially from the current (essentially uncontrolled) levels, particularly considering the emission controls that will be added for this project.

7.3 Nitrogen Oxides

Nitrogen oxides (NO_x) are produced in all combustion processes. There are two mechanisms by which NO_x are formed during combustion:

- Thermal NO_x are formed by high temperature oxidation of nitrogen in the combustion air.
- Fuel NO_x are formed by the oxidation of nitrogen in the fuel.

The selective non-catalytic reduction system (SNCR) is designed to provide a high degree of NO_x control while minimizing the amount of ammonia emissions (slip). The system will store, convey, and inject aqueous ammonia (NH_3) or urea into the first pass of each boiler immediately above the combustion zone. Emission data from other MWCs injecting NH_3 (or urea) into the first pass of the boiler indicate that NO_x emissions can be reduced to the Emission Guideline requirement of 205 parts per million by volume (ppmv) on a routine basis. The installation of the NO_x CEMS will insure that the NO_x emission limit will not be exceeded.

The ammonia "slip" limit for this level of NO_x control is estimated by the County to be less than 50 ppmdv, corrected to 7 percent O_2 . No limit for ammonia will be incorporated into the permit. There is no rule specifically related to ammonia and the City has a financial disincentive to inject more ammonia than required. Excessive injection of ammonia might also become apparent

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

through formation of ammoniated salts with a related increase in plume opacity. Continuous monitoring of opacity will provide the facility operators a check on this reaction.

The SNCR system will reduce NO_x actual emissions will decrease substantially from the current uncontrolled levels.

7.4 Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)

CO and VOC are formed by the incomplete oxidation of carbon compounds in wastes and fuels. Some amount of CO is formed in all combustion processes in which carbon-containing fuel is burned. Compliance with the CO limit of 100 ppm_{dv}, corrected to 7 percent O₂ on a 4-hour block-average basis, will be determined by a CEM system.

Per Section 6.2, emissions of CO do not increase significantly based on a comparison of future potential emissions with past actual emissions. The past actual emissions was determined from the only available data, one test in 1985. Carbon Monoxide emissions should actually decrease because of the improved combustion controls associated with this project.

The Emission Guideline does not require, and the City has requested deletion of, the original VOC limit from the permit. Past actual emissions indicate compliance with the VOC limit in the operation permit. Improved combustion controls from this project should further reduce actual emissions of VOCs. The Department will grant the City's request to delete the VOC limit from the operation permit. CO will be employed as a surrogate to indicate combustion quality.

7.5 Mercury (Hg)

Mercury is a trace metal found in solid waste. Its origin is attributable to many different waste materials. Within the temperature range of the combustion process for solid waste, mercury is found as a metallic vapor. The proposed activated carbon injection system will store, convey, and inject dry activated carbon into the flue gas stream immediately upstream of the spray dryer inlet or within the absorber chamber. This will reduce potential mercury emissions. Emission data from other MWCs employing similar injection system in conjunction with spray dryer and fabric filters indicate that the Emission Guideline mercury outlet requirements of 70 micrograms per dry cubic meter (ug/dscm) or 85 percent removal are achievable on a routine basis. The City has also agreed to an additional absolute limit of 135 ug/dscm to further limit emissions of mercury. The carbon injection system will also help to minimize emissions of dioxins and furans.

7.6 Lead (Pb), Cadmium (Cd), and Beryllium (Be)

Most trace metals found in solid waste are directly proportional to their content in the solid waste. Lead will liquefy during combustion. Due to its vapor pressure some volatilization will occur. Cooling in the spray dryer, condensation and solidification onto fly ash, and subsequent collection by the fabric filter system will occur. Some liquid lead will also become part of the bottom ash. The City does not burn lead acid batteries. Emissions of Pb are expected to decline further due to the proposed project.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Cd is present in both the combustible and non-combustible parts of the solid waste stream and is efficiently collected by the spray dryer and fabric filter system. Emissions of Cd are also expected to decline further as a result of the project.

Beryllium can be present in trace quantities in both the combustible and non-combustible parts of the solid waste stream and will be efficiently collected in the fabric filter baghouses. Emission data in the two tests conducted at the facility has found no Be emissions at the detection limits of 8×10^{-5} and 4.1×10^{-5} lb/hr. This is an order of magnitude lower than the permitted limit of 4.6×10^{-4} lb/hr.

The present permitted emission limit is equivalent to about half of the allowable limit per 40CFR61, Subpart C - National Emission Standard for Beryllium. Even though emissions are expected to decline, a comparison of past actual to future potential emissions is not valid because the limited test data shows no emissions above the detection limits. The limit for beryllium will remain unchanged.

Other trace metals are also controlled with the fabric filter system and compliance is verified by the PM standard. Fabric filter baghouses generally perform better than electrostatic precipitators in the removal of some of the non-PSD air pollutants.

7.7 MWC Organics

MWC organics are comprised of hazardous air pollutants known as dioxins and furans. These species are among the pollutants most specifically targeted by the Emission Guideline. There are characteristics of each part of the air pollution control system that minimize the potential for MWC formation or enhance their capture.

Virtually all dioxins and furans organics are destroyed by high temperature combustion. Removal of chlorides through the scrubbing of acid gases in the spray dryer system also reduces potential formation of dioxins and furans. Injection of activated carbon to control mercury will add yet another measure of dioxins and furans control.

MWC organics can form within the particulate control equipment on fly ash, in the presence of excess oxygen, at temperatures above 450 degree Fahrenheit (F). Therefore, the guideline requires operating the PM control device at temperatures which minimizes such formation. Rapid quenching through the spray dryer system inhibits formation at intermediate temperatures. Most of what does form is removed by the fabric filter baghouse via adsorption of organics on carbon or other particulates collected on the fabric filter. Flue gas temperature will be monitored at the inlet of the PM control device. Compliance with maximum PM control device temperature requirements will be determined by a device to measure temperature on a continuous basis at the fabric filter inlet. Temperature will be calculated in a 4-hour block arithmetic averages.

Finally, the good combustion practices required to minimize CO emissions to comply with the Emission Guideline will further reduce the potential of organics emissions. Continuous compliance monitoring for CO is a good surrogate for organics which cannot be monitored continuously.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

8. REASONABLE AVAILABLE CONTROL TECHNOLOGY EVALUATION (PM)

One of the requirements under the maintenance plan for the area is implementation of Reasonable Available Control Technology (RACT) pursuant to Rule 62-296.711, F.A.C.(c). The Department finds that the proposed opacity limit and EPA Method to determine compliance with this limit constitute RACT for particulate matter. The Emissions Guideline requirements for PM are at least as stringent as and therefore satisfy the RACT requirement for the combustion units.

Particulate emissions from the Lime Silo and Ash Conveyor System shall be limited as follows:

- Particulate emissions from the lime storage silos exhaust shall not exceed 0.015 grains per dry standard cubic foot (gr/dscf) during filling operations of the lime storage silo. Visible emissions shall not exceed 5% opacity in lieu of a PM test of the silo exhaust.
- Particulate matter emissions from the activated carbon storage silo exhaust shall not exceed 0.015 gr/dscf (front-half catch) during filling operations of the activated carbon storage silo. Visible emissions shall not exceed 5% opacity in lieu of a PM test of the silo exhaust.
- Visible emissions from the ash conveyor systems, transfer points, buildings, or enclosures of ash conveying systems shall not occur more than 5 percent of the time during the observation period, except during times of maintenance or repair of these systems. The proposed emission limit of visible emissions not more than 5% of the observation period from ash handling operations and EPA Method 22 constitute RACT.
- The potential for dust generation by ash handling activities will be mitigated by quenching the ash prior to loading in ash transport trucks. In addition, all portions of the proposed facility (including the ash handling facility) which have the potential for fugitive emissions will be enclosed. Areas which must be open for operational purposes (e.g., tipping floor of the refuse bunker while trucks are entering and leaving) will be under negative air pressure.

9. CONCLUSION

Based on the technical evaluation of the application and additional information submitted by the City of Tampa, the Department has made a preliminary determination that the proposed project will reduce emissions of most air pollutants - particularly those considered to be hazardous air pollutants. The Department has reasonable assurance that the project will comply with all applicable state and federal air pollution regulations provided the allowable emissions limits are not exceeded and certain conditions are met. The general and specific conditions are listed in the attached draft conditions of approval.

For further details regarding this review, contact:

Joseph Kahn, P.E. or
Teresa Heron
Bureau of Air Regulation
850/488-1344



Department of Environmental Protection

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Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

PERMITTEE:

City of Tampa
McKay Bay Refuse-to-Energy Facility
306 East Jackson
Tampa, Florida 33602

FID No.	0570127
Permit No.	0570127-002-AC
PSD No.	PSD-FL-086(A)
SIC No.	4953
Expires:	January 29, 2003

Authorized Representative:
Mr. Dick Greco
Mayor

PROJECT AND LOCATION:

This permit allows the applicant to substantially replace or rebuild the existing municipal waste combustion facility. This retrofit project will upgrade the existing four mass-burn combustion units to achieve greater combustion control and improve combustion efficiency, as well as replace air pollution control equipment, to comply with the emission limits and monitoring requirements of the Federal emission guidelines for large municipal waste combustors, 40 CFR 60 Subpart Cb. Each municipal waste combustion unit will have a short-term tonnage capacity of 288 TPD and maximum heat input of 120 million Btu per hour (mmBtu/hr), 104 mmBtu/hr, nominal. These capacities are not limited by this permit. This permit limits maximum steam flow to 72,800 pounds per hour, and limits long-term (nominal) capacity to 250 TPD, rolling 12-month average.

The facility is located at 107 North 34th Street, Tampa, Hillsborough County. The UTM coordinates of this facility are Zone 17 ; 360.0 km E ; 3091.9 km N.

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached appendix is part of this permit:

Appendix GC Construction Permit General Conditions

Howard L. Rhodes, Director
Division of Air Resources
Management

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AIR CONSTRUCTION PERMIT 0570127-002-AC, PSD-FL-086(A)

SECTION I. FACILITY INFORMATION

SUBSECTION A. FACILITY DESCRIPTION

This existing facility consists of four mass-burn combustion units, each with a nominal capacity to combust 250 tons per day (TPD) when burning solid waste with a heat content of 5,000 British thermal units (BTU) per pound (lb). Therefore, the facility has a nameplate (nominal) waste processing rate of 1,000 TPD (5,000 Btu/lb). The heat input to each unit is 104 mmBtu/hr nominal. The facility generates electricity, and has an electrical generator with a nameplate rating of 22.5 megawatts for the entire facility. Each upgraded air pollution system will consist of a spray dryer absorber (SDA), fabric filter baghouse (FF), activated carbon injection (ACI) unit, and a selective non-catalytic reduction (SNCR) system.

This permit allows the applicant to substantially replace or rebuild the existing municipal waste combustion facility. This retrofit project will upgrade the existing four mass-burn combustion units to achieve greater combustion control and improve combustion efficiency, as well as replace air pollution control equipment, to comply with the emission limits and monitoring requirements of the Federal emission guidelines for large municipal waste combustors, 40 CFR 60 Subpart Cb. Each municipal waste combustion unit will have a short-term tonnage capacity of 288 TPD (long-term capacity is limited by this permit to 250 TPD, rolling 12-month average) and maximum heat input of 120 million Btu per hour (mmBtu/hr), 104 mmBtu/hr nominal.

A general description of this project is as follows: The existing grate furnaces, rotary kilns, electrostatic precipitators and ID fans will be replaced. New boiler systems will be installed to recover heat from the waste combustion. The boiler tubes may be integral to the furnace design (waterwall furnace) or may be constructed to recover heat by convective heat transfer (as with a refractory furnace with waste heat boiler). The existing waste heat boilers may be reused in the new boiler systems. The new air pollution control equipment for each line consists of a spray dryer absorber, a fabric filter, and activated carbon injection system. A selective non-catalytic reduction system (SNCR) and auxiliary gas burners will be installed in the furnaces. The two existing 165-foot stacks will be replaced with a single, multi-flued stack, 201 feet tall. New bottom ash and fly ash handling systems will be installed, and a new ash storage building will be constructed. Fugitive ash emissions will be controlled by enclosing the ash transfer and storage system.

Natural gas fired auxiliary burners and combustion control systems with continuous monitoring devices for combustion and process parameters and SO₂, NO_x and CO will be installed to improve combustion efficiency and control.

In addition to the physical changes described above, the permit: specifies steam flow as the main process throughput parameter to be monitored; establishes maximum steam flow at 72,800 pounds

Project: Facility Improvements
Facility ID No. 0570127
SIC: 4953

City of Tampa
McKay Bay Refuse-to-Energy Facility
Tampa, Florida

AIR CONSTRUCTION PERMIT 0570127-002-AC, PSD-FL-086(A)

SECTION I. FACILITY INFORMATION

per hour (at a net steam energy of 1103 Btu/lb); provides for combustion of segregated waste streams and defines more precisely the types of wastes that may be burned; removes the VOC limitations imposed by the current operation permit; and specifies the requirements of the emission guidelines for fugitive PM emissions from the ash handling and storage processes, which constitute MACT, be substituted for the PM RACT requirements of Rule 62-296.711, F.A.C. (Materials Handling), pursuant to Rule 62-296.711(2)(c), F.A.C.

SUBSECTION B. REGULATORY CLASSIFICATION

This facility is listed in Table 62-212.400 of Chapter 62-212, F.A.C., "Major Facilities Categories". Stack and fugitives emissions of over 100 tons per year of particulate matter, carbon monoxide, volatile organic compounds, sulfur dioxide, and nitrogen oxides, characterize the installation as a major facility. The installation of the new air pollution control system will not subject this facility to PSD review under the requirement of Rule 62-212.400, F.A.C., since there is not an increase in actual emissions. As a Resource Recovery Facility (waste-to-energy facility), the affected emissions units are subject to applicable requirements of Rule 62-296.416, F.A.C. Waste to Energy, and Rule 62-204.800, F.A.C., which incorporates 40 CFR 60 Subpart Db, Subpart Cb, Subpart E, and the requirements of Subpart Eb specified by Subpart Cb.

SUBSECTION C. PERMIT SCHEDULE:

- (DATE) , notice of intent published in [Newspaper]
- January 29, 1998, issued notice of intent to issue permit
- November 13, 1997, application deemed complete

SUBSECTION D. RELEVANT DOCUMENTS:

The documents listed below are the basis of the permit. They are specifically related to this permitting action. These documents are on file with the Department.

Application received (Bureau of Air Regulation) on September 16, 1997

Department's letter dated October 14, 1997

City's letters dated October 31, November 13, December 16, December 22, 1997, January 12, 15, and 21, 1998

SECTION II. EMISSION UNIT(S) GENERAL REQUIREMENTS

SUBSECTION A. ADMINISTRATIVE

- A.1 Regulating Agencies: All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP) at 2600 Blairstone Road, Tallahassee, Florida 32399-2400 and phone number 850/488-1344. All documents related to reports, tests, and notifications should be submitted to the Department's Southwest District office (DEPSWD), 3804 Coconut Palm Drive, Tampa, Florida 33619 and phone number 813/744-6100 and the Hillsborough County Environmental Protection Commission (HCEPC), 1900 Ninth Avenue, Tampa, Florida 33605 and phone number 813/272-5960.
- A.2 General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
- A.3 Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
- A.4 Forms and Application Procedures: The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. [Rule 62-210.900, F.A.C.]
- A.5 Expiration: Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. [40 CFR 52.21 (r)(2)]
- A.6 Application for Title V Permit: An application for a modification of the Title V operating permit, pursuant to Chapter 62-213, F.A.C., must be submitted to the DEP's Bureau of Air Regulation, and a copy to DEPSWD and HCEPC. [Chapter 62-213, F.A.C.]
- A.7 New or Additional Conditions: Pursuant to Rule 62-4.080, F.A.C., for good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.

SECTION II. EMISSION UNIT(S) GENERAL REQUIREMENTS

SUBSECTION B. CONSTRUCTION REQUIREMENTS

- B.1 Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit (s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-212, 62-213, 62-296, 62-297 and the Code of Federal Regulations Section 40, Part 60, adopted by reference in the Florida Administrative Code (F.A.C.) regulations [Rule 62-204.800, F.A.C.]. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations [**Rule 62-210.300, F.A.C.**]

SUBSECTION C. OPERATIONAL REQUIREMENTS

- C.1 Changes/Modifications: The owner or operator shall submit to the Department's Bureau of Air Regulation, for review any changes in, or modifications to: the method of operation; process or pollution control equipment; increase in hours of operation; equipment capacities; or any change which would result in an increase in potential/actual emissions. Depending on the size and scope of the modification, it may be necessary to submit an application for, and obtain, an air construction permit prior to making the desired change. *Routine maintenance of equipment will not constitute a modification of this permit.* [**Rule 62-4.030, 62-210.300 and 62-4.070(3), F.A.C.**]
- C.2 Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations. [**Rule 62-4.130, F.A.C.**]
- C.3 Operating procedures shall include good combustion practices and proper training and certification of all operators. The good combustion practices shall meet the guidelines established in 40 CFR 60, Subpart Cb and procedures as established by recognized industry standards. All operators (including supervisors) of air pollution control device shall be properly trained and certified in plant specific equipment. A list of all such certified personnel shall be submitted to the Department's Southwest District office (DEPSWD) and

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SECTION II. EMISSION UNIT(S) GENERAL REQUIREMENTS

the Hillsborough County Environmental Protection Commission (HCEPC). Department's staff shall be given notice of any formal training sessions related to operation and maintenance of air pollution control devices. [Rule 62-204.800(8), F.A.C. and 62-4.070 (3), F.A.C.]

- C.4 Exceptions and Approval of Alternate Procedures and Requirements: An Alternate Sampling Procedure (ASP) may be requested from the Bureau of Air Monitoring and Mobile Sources of the Florida Department of Environmental Protection in accordance with the procedures specified in **Rule 62-297.620, F.A.C.**

SUBSECTION D. MONITORING OF OPERATIONS

Determination of Process Variables

- D.1 The permittee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
- D.2 Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. [Rule 62-297.310(5), F.A.C.]

SUBSECTION E. OTHER REQUIREMENTS

- E.1 Waste Disposal: The owner or operator shall treat, store, and dispose of all liquid, solid, and hazardous wastes in accordance with all applicable Federal, State, and Local regulations. This air pollution permit does not preclude the permittee from securing any other types of required permits, licenses, or certifications.

SUBSECTION F. ELECTRIC UTILITY STEAM GENERATING UNIT ACTUAL EMISSIONS

- F.1 Requirement: The permittee shall provide the Department within the period not longer than 10 years following the change, information demonstrating that the physical or operational change did not result in a "representative actual annual emissions" increase in accordance with Rule 62-210.100 (12)(d), F.A.C., and Rule 62-212.400, F.A.C.
[40 CFR 52.21(b)(33), Rule 62-4.070 (3), Rule 62-212.400, and Rule 62-210.100, F.A.C.]

Project: Facility Improvements
Facility ID No. 0570127
SIC: 4953

City of Tampa
McKay Bay Refuse-to-Energy Facility
Tampa, Florida

DRAFT

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. 40 CFR 60, NSPS, GENERAL PROVISIONS

The following emission limitations shall apply to each affected emissions unit after the proposed improvements to comply with 40 CFR 60 Subpart Cb are made and compliance testing is completed. This section addresses the following emissions units:

EMISSIONS UNIT NO.	EMISSIONS UNITS DESCRIPTION
001	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 1
002	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 2
003	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 3
004	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 4
006	Ash Building and Handling System

The affected emissions units shall comply with all applicable requirements of 40 CFR 60, General Provisions, Subpart A, after improvements to comply with 40 CFR 60 Subpart Cb are completed.

- A.1 [40 CFR 60.7, Notification and record keeping]
- A.2 [40 CFR 60.8, Performance tests]
- A.3 [40 CFR 60.11, Compliance with standards and maintenance requirements]
- A.4 [40 CFR 60.12, Circumvention]
- A.5 [40 CFR 60.13, Monitoring requirements]
- A.6 [40 CFR 60.19, General notification and reporting requirements]

The affected emissions units shall comply with all applicable provisions of the 40 CFR 60, Subpart E, New Source Performance Standards for Incinerators, and Subpart Cb, Emissions Guidelines for Existing Municipal Waste Combustors, along with applicable requirements of Subpart Db, New Source Performance Standards for Steam Generating Units, 40 CFR 61.30, Subpart C, NESHAP for Beryllium and Rule 62-296.416, F.A.C., Waste-to-Energy Facilities. In addition these emissions units shall also comply with all the conditions listed in Section II (Emissions Unit General Requirements) of this permit.

[Rule 62-4.070(3), 62-204.800(8) and 62-296-416, F.A.C.]

{Note: This project is subject to the requirements of 40 CFR 60, Subpart Cb. This permit may refer to the requirements of 40 CFR 60, Subpart Eb where these requirements are referenced by Subpart Cb.}

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SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION B. SPECIFIC CONDITIONS:

The following specific conditions apply to the following emissions units after improvements to comply with 40 CFR 60 Subpart Cb are completed.

EMISSIONS UNIT NO.	EMISSIONS UNITS DESCRIPTION
001	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 1
002	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 2
003	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 3
004	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 4

{Note: Each unit will have a short term tonnage capacity of 288 tons of waste per day and a maximum heat input capacity of 120 mmBtu/hr. Nominal heat input capacity is 104 mmBtu/hr. These capacities are not limited by this permit. Instead the nominal capacity is limited to 250 tons of waste per day, as determined by a rolling 12 month average. Short-term capacity is limited by limiting steam production, which effectively limits heat input.}

OPERATIONAL REQUIREMENTS

- B.1 The combustor boilers shall have a metal name plate affixed in a conspicuous place on the shell showing manufacturer, model number, type waste, and rated capacity.
- B.2 Process Operating Rates: Each of the four municipal waste combustor units (MWCs) shall have a maximum rated capacity of 72,800 pounds of steam produced per hour, with a net steam energy of 1103 Btu/lb of steam (the net steam energy may be calculated as the difference in enthalpy between the steam at the superheater outlet and the feedwater at the inlet). This capacity shall not be exceeded. Additionally, each unit shall not be charged with more than 250 tons of waste per day, as determined by a rolling 12 month average. **[Rules 62-4.030(3) and 62-204.800(8), F.A.C., 40 CFR 60.31b; 60.38b; 60.51b, and 60.58b(j)]**
- B.3 Load Level: *Unit load* means the steam load of the municipal waste combustor (MWC) measured as specified in 40 CFR 60.58b(i)(6). Compliance with load level requirements shall be determined by a steam meter using ASME Power Test Code for Steam Generating Units, Power Test Code 4.1, section 4 (see 40 CFR 60.58b(i)(6)(ii)). Each MWC unit shall not operate at a load level greater than 110 percent of the unit's *maximum demonstrated unit load* based on 4-hour block averaged measurements of steam flow. The maximum demonstrated unit load is the highest arithmetic averaged measurement of steam flow recorded for four consecutive hours during the most recent dioxin/furan performance stack test in which compliance with the dioxin/furan emission limit was achieved. **[Rule 62-204.800(8), F.A.C., 40 CFR 60.31b; 60.38b; 60.51b; 60.53b(b); and 60.58b(i) (6)&(8)]**

Project: Facility Improvements
 Facility ID No. 0570127
 SIC: 4953

City of Tampa
 McKay Bay Refuse-to-Energy Facility
 Tampa, Florida

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SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

B.4 Emission Control Equipment

Particulate Matter

Each unit shall be equipped with a particulate control baghouse designed, constructed and operated so as not to exceed a maximum emission rate of 27 mg/dscm corrected to 7 percent O₂. These baghouses shall be equipped with pressure drop monitoring equipment.

Spray Dryer Scrubber

Each unit shall be equipped with a spray dryer scrubber designed, constructed and operated so as to remove SO₂ at an efficiency of 75 percent, or not to exceed a maximum emission rate of 29 ppm_{dv} corrected to 7 percent O₂, 24-hour block geometric mean, whichever is less stringent.

Carbon Injection

Each unit shall be equipped with a carbon injection system. The carbon injection rate must be calculated and maintained in compliance with the requirements set forth in 40 CFR 60.58b(m).

Selective Non Catalytic Reduction System

Each unit shall be equipped with a selective non catalytic reduction system designed, constructed and operated so as not to exceed a maximum NO_x emission rate of 205 ppm_{dv} corrected to 7 percent O₂, 24-hour block arithmetic mean (midnight to midnight).

Within 30 days after it becomes available, but before commencement of construction of the air pollution control equipment, the Permittee shall submit to the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) copies of technical data pertaining to the selected emission control systems. This data should include, but not be limited to guaranteed efficiency and emission rates, and major design parameters.

B.5 Stack Height: The height of the boiler exhaust stack shall not be less than 201 feet above grade.

B.6 Fuels

The primary fuel for the facility is municipal solid waste (MSW), including the items and materials that fit within the definition of MSW contained in either 40 CFR 60.51b or Section 403.706(5), Florida Statutes (1995).

[Rule 62-4.070(3), F.A.C., and request of applicant]

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SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

- B.6.1 Subject to the limitations contained in this permit, the authorized fuels for the facility also include the other solid wastes that are not MSW which are described below. However, the facility shall not burn:
- (a) those materials that are prohibited by state or federal law;
 - (b) those materials that are prohibited by this permit;
 - (c) lead acid batteries;
 - (d) hazardous waste;
 - (e) nuclear waste;
 - (f) radioactive waste;
 - (g) sewage sludge;
 - (h) explosives.
- B.6.2 The fuel may be received either as a mixture or as a single-item stream (segregated load) of discarded materials. If the facility intends to use an authorized fuel that is segregated non-MSW material, the fuel shall be either:
- (a) well mixed with MSW in the refuse pit; or
 - (b) alternately charged with MSW in the hopper.
- B.6.3 The facility operator shall prepare and maintain records concerning the description and quantities of all segregated loads of non-MSW material which are received and used as fuel at the facility, and subject to a percentage weight limitation, below (B.6.6. and B.6.7). For the purposes of this permit, a segregated load is defined to mean a container or truck that is almost completely or exclusively filled with a single item or homogeneous composition of waste material, as determined by visible observation.
- B.6.4 To ensure that the facility's fuel does not adversely affect the facility's combustion process or emissions, the facility operator shall:
- (a) comply with good combustion operating practices in accordance with 40 CFR 60.53b;
 - (b) install, operate and maintain continuous emissions monitors (CEMS) for oxygen, carbon monoxide, sulfur dioxide, oxides of nitrogen and temperature in accordance with 40 CFR 60.58b; and
 - (c) record and maintain the CEMS data in accordance with 40 CFR 60.59b.

These steps shall be used to ensure and verify continuous compliance with the emissions limitations in this permit.

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

Natural gas may be used as fuel during warm-up, startup, shutdown, and malfunction periods, and at other times when necessary and consistent with good combustion practices.

B.6.5 Subject to the conditions and limitations contained in this permit, the following other solid waste materials may be used as fuel at the facility:

- (a) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons and microfilm);
- (b) Contraband which is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste, or otherwise prohibited at the facility. For the purposes of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods;
- (c) Wood pallets, clean wood, and land clearing debris;
- (d) Packaging materials and containers;
- (e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; or
- (f) Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings.

B.6.6 Subject to the conditions and limitations contained in this permit waste tires may be used as fuel at the facility. The total quantity of waste tires received as segregated loads and burned at the facility shall not exceed 3%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition B.24 below.

B.6.7 Subject to the conditions and limitations contained in this permit, the following other solid waste materials may be used as fuel at the facility (i.e. the following are authorized fuels that are non-MSW material). The total quantity of the following non-MSW material received as segregated loads and burned at the facility shall not exceed 5%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition B.24 below.

- (a) Construction and demolition debris.
- (b) Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes, and absorbents.
- (c) Items suitable for human, plant or domesticated animal use, consumption or application where the item's shelf-life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or

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SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

expired consumer products, pharmaceuticals, medications, health and person care products cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.

- (d) Consumer-packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
- (e) Waste materials that:
 - (i) are generated in the manufacture of items in categories (c) or (d), above and are functionally or commercially useless (expired, rejected or spent); or
 - (ii) are not yet formed or packaged for commercial distribution. Such items or materials must be substantially similar to other items or materials routinely found in MSW.
- (f) Waste materials that contain oil from:
 - (i) the routine cleanup of industrial or commercial establishments and machinery; or
 - (ii) spills of virgin or used petroleum products. Such items or materials include but are not limited to rags, wipes, and absorbents.
- (g) Used oil and used oil filters. Used oil containing a PCB concentration equal or greater than 50 ppm shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).
- (h) Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval of the Department.

B.7 Startup/Shutdown/Malfunctions

- (a) The emission limitations for this facility shall apply at all times, except during periods of warm-up, startup, shutdown, or malfunctions, provided that the duration of startup, shutdown, or malfunction periods do not exceed 3 hours per occurrence. The duration of warm-up periods is not limited. The startup period commences when the affected facility begins the continuous burning of waste and does not include any warm-up period when the affected facility is combusting only natural gas and waste is not being introduced to the combustor. The use of waste solely to provide thermal protection to the grate during the warm-up periods when waste is not being fed to the combustor is not considered to be continuous burning. During all startups, shutdowns, and malfunctions, the owner/operator shall use best operational practices to minimize air pollutant emissions.

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SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

(b) A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Excess emissions that are caused entirely or in part by poor maintenance, careless operation, any other preventable upset condition, or preventable equipment breakdown shall not be considered malfunctions. Excess emissions resulting from startup, shutdown or malfunction of any source shall be permitted providing: (1) best operational practices to minimize emissions are adhered to, and (2) the duration of excess emissions shall be minimized but in no case exceed 3 hours per occurrence. [Rule 62-210.700, and 62-204.800(8), F.A.C., and 40 CFR 60.58b(a)(1)]

EMISSION LIMITATIONS & STANDARDS

B.8 Emissions from each MWC combustor unit shall not exceed the limits listed in the following table. [Rules 62-4.030 and 62-296.416, F.A.C., 40 CFR 60.52b and 40 CFR 60.53b(b), and request of applicant]

Table with 5 columns: POLLUTANT, EMISSION STANDARDS, LB/mmBtu, LB/HR, TON/YR. Rows include PM10, VE, Cd, F, Be, Pb, Hg, SO2, HCl, Dioxins/Furans, CO, and NOx.

Project: Facility Improvements
Facility ID No. 0570127
SIC: 4953

City of Tampa
McKay Bay Refuse-to-Energy Facility
Tampa, Florida

DRAFT

AIR CONSTRUCTION PERMIT 0570127-002-AC, PSD-FL-086(A)

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

Emissions from the facility shall not exceed the limits listed in the following table.

POLLUTANT ⁽⁴⁾	EMISSION STANDARDS	EMISSION LIMIT (Tons in any consecutive 12-month period)
SO ₂ Sulfur Dioxide	Emissions shall not to exceed 460 tons in any consecutive 12 month period	460
CO Carbon Monoxide	Emissions shall not to exceed 185 tons in any consecutive 12 month period	185
NO _x Nitrogen Oxides	Emissions shall not to exceed 679 tons in any consecutive 12 month period	679

Notes to tables:

- (1) This limit for PM/PM₁₀ is more restrictive than the emission limit for PM in 40 CFR 60.43b
- (2) The limit for Beryllium is more stringent than that imposed by the NESHAP, 40 CFR 63.32 (a)(Subpart C). This limit will remain the same as specified in previous permits.
- (3) The NO_x standard of 40 CFR 60.44b does not apply to these emissions units because this permit subjects this facility to a federally enforceable requirement that limits the facility to an annual capacity factor of 10 percent or less for natural gas.
- (4) Emissions of sulfur dioxide, carbon monoxide and nitrogen oxides are limited on a facility-wide basis to limit emissions below PSD significance levels.

Basis: Emissions calculations (lb/hr and ton/yr) are based on the maximum heat input rate of 120 mmBtu/hr (72,800 lb steam/hr) per unit and 8760 hours of operation.

Averaging Times

- SO₂: 24-hour daily block geometric mean (midnight to midnight).
- NO_x: 24-hour daily block arithmetic mean (midnight to midnight).
- CO: 4-hour block arithmetic mean beginning at midnight.
- Opacity: 6 minute arithmetic mean.

Abbreviations

- ug/dscm: Micrograms per dry standard cubic meter
- mg/dscm: Milligrams per dry standard cubic meter
- ng/dscm: Nanograms per dry standard cubic meter
- ppmdv: Part per million dry volume
- Dioxins/ furans: Total tetra through octa-chlorinated dibenzo-p-dioxins and dibenzofurans
- F: Fluorides as hydrogen fluoride

Auxiliary Burners: Nitrogen oxides emission from each auxiliary burner shall not exceed 2.4 lb/hr and 10.5 ton/yr. These emissions are included in, and not in addition to, combustor emissions, as limited above. Allowable emissions for MSW combustors include emissions from auxiliary burners. The gross heat input from natural gas combustion in the auxiliary burners shall not exceed 10 percent of the total potential heat input in any calendar year. Auxiliary burners for each MWC unit shall be fired only with natural gas, and the annual capacity factor for natural gas is 10% or less; see 40 CFR 60.44b(d). See condition B.9 of this permit.

[40 CFR 60.44b, Rules 62-210.200, 62-204.800 (8) and 62-4.070(3), F.A.C., and request of applicant]

Project: Facility Improvements
Facility ID No. 0570127
SIC: 4953

City of Tampa
McKay Bay Refuse-to-Energy Facility
Tampa, Florida

DRAFT

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

B.9 Auxiliary Burners: Auxiliary burners for each unit shall be fired only with natural gas. The annual capacity factor for natural gas for each unit shall be limited to 10% or less. The annual capacity factor for natural gas is the ratio between the heat input to the unit from natural gas during a calendar year and the potential heat input to the unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. Monthly records shall be maintained of the amount of natural gas used by the auxiliary burners of each unit and the equivalent heat input from natural gas. On an annual basis (no later than 30 days after the end of the calendar year), a demonstration must be performed based on the monthly records showing that the capacity factor for natural gas for each unit was 10% or less.

[Rule 62-4.070(3), F.A.C., 40 CFR 60.41b and 40 CFR 60.44b(d)]

{Note: This condition effectively limits annual average heat input from natural gas to approximately 12 mmBtu/hr per unit.}

COMPLIANCE AND PERFORMANCE TESTING

B.10 Stack Testing

Compliance tests for the pollutants listed in Specific Condition No. B.8 shall be performed annually by using the following reference methods as described in 40 CFR 60, Appendix A and/or 40 CFR 61 Appendix B adopted by reference in Chapter 62-204, F.A.C. or any other method as approved by FDEP, in accordance with Chapter 62-297, F.A.C. Stack tests may also require Method 1, 2, 3, 3A/3B and 4 tests as appropriate. Testing shall be conducted in accordance with the requirements of 40 CFR 60.58b Compliance and Performance Testing. A test protocol shall be submitted for approval to the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) at least 90 days prior to the initial testing. [Rule 62-204.800(8), F.A.C. and Chapter 62-297, F.A.C.]

Method 5 Determination of Particulate Matter Emissions from Stationary Sources.

Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources.

Method 13A Determination of Total Fluoride Emission from Stationary Sources.
or 13B

Method 23* Determination of Dioxin/furan Concentration from Stationary Sources.

Method 26** Determination of HCl emissions.
or 26A

Method 29** Determination of Metals Emissions from Stationary Sources.

DRAFT

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

* Dioxin/Furan emission limit expressed as the total mass of tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans. The facility may perform less frequent testing for dioxin/furan emissions, as allowed by 40 CFR 60.38b(b) and subject to prior approval by the Department, if the facility's dioxin/furan emissions do not exceed 15 ng/dscm corrected to 7% O₂ or less for all MWC units.

** Mercury and HCl stack tests upstream and downstream of the control device(s) shall be conducted to calculate percent control. For Mercury and HCl, respectively, compliance with the percentage reduction requirements of 85% and 95% shall be demonstrated in addition to demonstrating compliance with the maximum concentration limits of 135 ug/dscm and 100 ppm_{dv}.

Initial compliance tests for each combustion unit shall be conducted within 60 days after achieving maximum operating capacity, but no later than 180 days after startup. Annual tests shall be conducted within one year after the initial tests, unless otherwise allowed by the Department.

B.11 Test Procedures: Compliance tests shall meet all applicable requirements (i.e., testing frequency, minimum compliance duration, etc.) of Chapter 62-297, F.A.C. The Method 9 test shall be conducted during one run of the particulate matter test. The particulate matter test shall be conducted under conditions representative of normal operations and shall be scheduled to coincide with as much of the normal cleaning (sootblowing) cycle as practicable.
[Rules 62-4.070(3), 62-297.310 and 62-204.800(8), F.A.C.; and 40 CFR 60.38b (40 CFR 60.58b)]

B.12 Stack Testing Facilities: The owner or operator shall install stack testing facilities in accordance with Rule 62-297.310(6), F.A.C. The owner or operator shall provide ports in the air pollution control equipment outlet duct or stack and shall provide access to the sampling ports. [Rule 62-297.310(6)(c), F.A.C.]

MONITORING OF OPERATIONS

B.13 Continuous Monitoring: Compliance with the emission limits for carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂) shall be demonstrated by continuous emission monitoring systems (CEMS). Oxygen (O₂), and opacity shall be monitored by continuous monitoring systems. Monitors for sulfur dioxide and oxygen shall be located both upstream of the dry scrubber and downstream of the baghouse in order to calculate

DRAFT**SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS**

percentage removal efficiency. Continuous monitoring systems shall be installed, calibrated, maintained and operated as required by 40 CFR 60.13 and shall conform to all applicable Performance Specifications in 40 CFR 60, Appendix B. Quality assurance procedures shall conform to all applicable sections of 40 CFR 60, Appendix F. Initial performance evaluations shall be completed within 180 days after initial startup of each retrofitted unit. Data on continuous monitor equipment specifications, manufacturer, type, calibration and maintenance needs, and proposed locations shall be provided to the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) for review at least 90 days prior to installation.

[Rules 62-4.070(3) and 62-204.800(8), F.A.C. and 40 CFR 60.38 (40 CFR 60.58b)]

- B.14 Continuous Load Monitoring: The owner or operator shall install, calibrate, maintain, and operate a steam flow meter, measure steam flow in kilograms (or pounds) per hour on a continuous basis, and record the outcome of the monitor (in accordance with the ASME method described in 40 CFR Subpart Eb). Steam flow shall be calculated in 4-hour block arithmetic averages.

[Rule 62-204.800(8), F.A.C., 40 CFR 60.31b; 60.38b; 60.51b; 60.53b(b); and 60.58b(i)(6)]

- B.15 Charging Rate Monitoring: The average daily solid waste charging rate shall be determined on a monthly basis and recorded for each MWC unit. The daily charging rate shall be determined each month on an average daily basis for each MWC unit using the Facility's truck scale weight data, refuse pit inventory data and MWC operating data for the preceding calendar month. Monthly truck scale weight records of the weight of solid waste received and processed at the Facility, and refuse pit inventory data, shall be used to determine the amount of solid waste charged during the preceding calendar month on an average daily basis. The MWC load level measurements or other operating data shall be used to determine the number of operating hours per MWC unit for each day during the preceding calendar month.

[Rule 62-204.800(8), F.A.C., and 40 CFR 60.38b; 60.51b, 60.53b and 60.58b(j)]

- B.16 Compliance with the PM Control Device Temperature: Each MWC unit is required to continuously monitor and record the flue gas temperature at the inlet to the PM control device in accordance with the requirements at 40 CFR 60 Subpart Eb. The PM control device temperature shall be calculated in 4-hour block arithmetic averages. Each MWC unit shall be allowed to operate up to 17°C (30° F) above the unit's maximum demonstrated PM control device temperature. The maximum demonstrated PM control device temperature is the highest 4-hour arithmetic block-averaged measurement of

DRAFT

AIR CONSTRUCTION PERMIT 0570127-002-AC, PSD-FL-086(A)

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

temperature at the inlet to the PM control device recorded for 4 consecutive hours during the most recent dioxin/furan performance test which complied with the limits given above. The PM control device inlet temperature and the steam flow for each unit during the stack test shall be continuously monitored and recorded in accordance with 40 CFR 60, Subparts Cb and Eb. Higher temperatures are allowed for testing purposes, as specified at 40 CFR 60.53b(c). [Rule 62-204.800(8), F.A.C. and 40 CFR 60.38b (40 CFR 60.53b(c) and 60.58b(i)(7) and (9)]

B.17 Carbon Injection Rate: The carbon injection rate for each MWC unit in kilograms (or pounds) per hour shall be estimated during each mercury and dioxin/furan compliance stack test based on carbon injection system operating parameters such as the screw feeder speed, hopper volume, hopper refill frequency, or other parameters appropriate to the feed system being employed. During operation of each MWC unit, the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate must equal or exceed the level(s) documented during the most recent mercury and dioxin/furan stack tests in which compliance with the emission limits were achieved. The owner or operator shall estimate the total carbon usage for the facility for each calendar quarter according to the weight of carbon delivered to the facility and the average carbon mass feed rate (kg/hr or lb/hr) for each MWC unit based on the primary indicator(s) for carbon mass feed rate, summing the results for all MWC units and accounting for the total number of operating hours during the calendar quarter.
[Rule 62-204.800(8), F.A.C. and 40 CFR 60.58b(m)]

B.18 Continuous Monitors: Continuous monitors with recorders shall be installed, calibrated, maintained and operated for each unit subject to review by the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) for the following pollutants and operational parameters:

- Total steam production (mass/hr, pressure and temperature)
 - Carbon injection system operating parameters
 - Power generation (MW)
- [Rule 62-204.800(8), F.A.C. and 40 CFR 60.58b]

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

RECORD KEEPING AND REPORTING REQUIREMENTS**B.19 Reports and Records:**

All measurements, records and other data (test reports, etc.) required to be maintained by this facility shall be retained for at least five (5) years following the date on which such measurements, records and other data are recorded. Such records shall be maintained at the facility and shall include but not be limited to the items listed below. These records shall be made available upon request to the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) for inspection at the facility. [Rule 62-4.070(3), F.A.C.; Rule 62-4.160(14)(b), F.A.C. 40 CFR 60.5b and 40 CFR 60.44b(d)]

- (a) Data collected from monitoring instruments, including continuous monitoring systems, steam flow measurements and PM control device temperatures;
- (b) Continuous steam flow records on 4-hour block average;
- (c) Records of daily solid waste charging rates and hours of operation derived from monthly truck scale data and operational records;
- (d) Amount of natural gas burned for each unit each month; the equivalent heat input from natural gas for each unit each month, calculated using the heat value for natural gas provided by the natural gas supplier; and the annual records of the natural gas capacity factor for each unit;
- (e) Results of all source tests or performance tests; and records of the maximum demonstrated unit load specified by condition B.3 of this permit.
- (f) Amounts of ammonia, activated carbon, or other chemicals used for emissions control;
- (g) Calibration logs for all instruments;
- (h) Maintenance/repair logs for any work performed which is subject to this permit;
- (i) Records showing the names of facility personnel who have been provisionally or fully certified, and who have completed the MWC operator training course, and who have completed reviews of the operating manual, including the dates and documentation of certification/review.
- (j) Records demonstrating compliance with the percentage limitations on segregated solid wastes required by specific condition B.24 of this permit.

B.20 Quarterly Reports:

The owner or operator shall submit excess emission reports for any calendar quarter during which there are excess emissions from the facility pursuant to 40 CFR 60.7 Subpart A. If there are no excess emissions during the calendar quarter, the owner or operator shall

DRAFT**SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS**

submit a report quarterly stating that no excess emissions occurred during the quarterly reporting period. The report shall include the following:

- (a) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factors used, and the date and time of commencement and completion of each period of excess emissions. [40 CFR 60.7(c)(1)]
- (b) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the furnace boiler system. The nature and cause of any malfunction (if known) and the corrective action taken or preventive measure adopted. [40 CFR 60.7(c)(2)]
- (c) The date and time identifying each period during which the continuous monitoring system (CEM/COM) was inoperative except for zero and span checks, and the nature of the system repairs or adjustments. [40 CFR 60.7(c)(3)]
- (d) When no excess emissions have occurred or the continuous monitoring system (CEM/COM) has not been inoperative, repaired, or adjusted, such information shall be stated in the report [40 CFR 60.7(c)(4)]. In case of excess emissions resulting from malfunctions, the owner or operator shall notify Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) in accordance with Section 62-4.130, F.A.C. The DEPSWD and the HCEPC shall be notified within one working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the DEPSWD or the HCEPC may request a written summary report of the incident. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the DEPSWD or HCEPC. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. [Rules 62-4.130 and 62-210.700(6), F.A.C.]

- B.21 Continuous Emission Monitoring System Reports: For CEM and other monitoring systems required by this permit, data on monitoring equipment specifications, manufacturer, type, calibration and maintenance needs, and proposed sampling location shall be provided to the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) for review at least 90 days prior to installation.
- B.22 Operating Reports: Before March 1st of each year, the owner or operator shall submit to the Department's Southwest District office (DEPSWD) and the Hillsborough County

Project: Facility Improvements
 Facility ID No. 0570127
 SIC: 4953

City of Tampa
 McKay Bay Refuse-to-Energy Facility
 Tampa, Florida

DRAFT

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

Environmental Protection Commission (HCEPC) the Annual Operating Report [DEP Form No. 62-210.900(5)], which summarizes operations for the previous calendar year.

No later than February 1st of each year, the owner or operator shall submit an annual report for the previous calendar year including the information required by 40 CFR 60.59b(g)(1) through (4), as applicable.

In addition, if applicable, the owner or operator shall submit to the DEPSWD and the HCEPC offices the information required in 40 CFR 60.59b(h) on a semiannual basis. [Rule 62-210.370(3), F.A.C. and 40 CFR 60.59(g) and if applicable 40 CFR 60.59b(h)]

- B.23 Sampling Reports: Drawings of testing facilities including sampling port locations as required by Section 62-297.310(8)(c) shall be submitted to the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) for review at least 60 days prior to construction of the sampling ports.
- B.24 Segregated Solid Waste Record Keeping: The following records shall be made and kept to demonstrate compliance with the segregated non-MSW percentage limitations of specific condition B.6.6 and B.6.7:

Each segregated load of non-MSW materials, that is subject to the percentage weight limitations of specific condition B.6.6 and B.6.7, which is received for processing shall be documented as to waste description and weight. The weight of all waste materials received for processing shall be measured using the facility truck scale and recorded.

Each day the total weight of segregated tires received shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of tires shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 3% limitation.

Each day the total weight of segregated non-MSW materials received that are subject to the 5% restriction shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of segregated non-MSW materials shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the

DRAFT**SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS**

ratio in percentage terms. The percentage computed shall be compared to the 5% limitation.

B.25 Heat Input Reporting Requirements. The owner or operator shall submit to the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) notification of the date of initial startup as provided by 40 CFR 60.7. Such notification shall include the design heat input capacity of the affected facility, and the annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each fuel fired. [40 CFR 60.49b(a)(1) & (3)]

B.26 Report of Vendor and Equipment Selection. Within 60 days of selection of a primary vendor for this project, a report detailing the design features of the MWC equipment to be installed shall be submitted to the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC). Such report shall include the nominal and maximum design capacities of the furnaces, grates and boilers, and shall detail operating rates such as heat input, steam production, mass throughput and turndown capability for each unit. [Rule 62-4.070(3), F.A.C.]

OPERATOR TRAINING AND CERTIFICATION**B.27 Requirements**

- (a) One of the following persons must be on duty at the facility at any time during which one or more of the MWC units is operating: a fully certified chief facility operator or shift supervisor; or a provisionally certified chief facility operator or shift supervisor who is scheduled to take the full certification exam. If this person must leave the facility during his or her operating shift, a provisionally certified control room operator who is on site may fulfill this requirement. [40 CFR 60.39b(c)(4) (ii) and 40 CFR 60.54b(c)]
- (b) Each chief facility operator and shift supervisor must obtain and maintain a current provisional operator certification and be scheduled for a full certification exam, or receive full certification, with either the ASME or an equivalent state-approved certification program before the date that person assumes responsibility for operation of the facility. [40 CFR 60.39b(c)(4)(ii) and 40 CFR 60.54b(a) and (b)]

DRAFT

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

- (c) Each chief facility operator, shift supervisor, and control room operator must complete the EPA or state approved MWC operator training course before the date that person assumes responsibility for operation of the facility. The operator training course requirements of 40 CFR 60.54b(d) do not apply to chief facility operators, shift supervisors and control room operators who have obtained full ASME certification on or before the date of State plan approval (November 13, 1997). [40 CFR 60.39b(4)(iii)(A).] The owner or operator may request that the Department waive the operator training course requirements specified in 40 CFR 60.54(b)(d) for chief facility operators, shift supervisors and control room operators who have obtained provisional ASME certification on or before the date of State plan approval [40 CFR 60.39b(4)(iii)(B)]. **[40 CFR 60.39b(c)(4) and 40 CFR 60.54b(d)]**
- (d) A site-specific operating manual must be developed and updated on an annual basis [40 CFR 60.54b(e)]. A training program must be established to review the operating manual with each person who has responsibilities affecting the operation of the MWC including chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers. Each person must undergo initial training before the day that person assumes responsibilities affecting operation of the facility and annually thereafter [40 CFR 60.54(f)]. The operating manual must be kept in a readily accessible location for all persons required to undergo training. **[40 CFR 60.54b(e) and 40 CFR 60.54(f)]**

DRAFT

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION C. SPECIFIC CONDITIONS:

The following specific conditions apply to the following emissions units after improvements to comply with 40 CFR 60 Subpart Cb are completed.

EMISSIONS UNIT NO.	EMISSIONS UNITS DESCRIPTION
006	Ash Building and Handling System
007	Lime Silo
008	Carbon Silo

EMISSION LIMITATIONS

C.1 Lime Silo and Ash Conveyor System:

Particulate emissions from these emissions units shall be limited as follows:

- (a) In no case shall PM emissions from the lime storage silo exhaust exceed 0.015 gr/dscf during filling operations of the lime storage silo. Visible emissions shall not exceed 5% opacity in accordance with specific condition C.3.
- (b) In no case shall particulate matter emissions from the activated carbon storage silo exhaust exceed 0.015 gr/dscf during filling operations of the activated carbon storage silo. Visible emissions shall not exceed 5% opacity in accordance with specific condition C.3.
- (c) Visible emissions from the ash conveyor systems, transfer points, buildings, or enclosures of ash conveying systems shall not occur more than 5 percent of the time during the observation period, except during times of maintenance or repair of these systems.
- (d) The potential for dust generation by ash handling activities will be mitigated by quenching the ash prior to loading in ash transport trucks. The ash handling facilities shall be enclosed. Residue from the grates, grate siftings, and ash from the combustor/boiler and fabric filter hoppers during normal operations shall be discharged into the ash quenching system or otherwise handled in a manner to minimize visible dust. The ash/residue in the ash handling building shall remain sufficiently moist to prevent dust during storage and handling operations.

[Rule 62-4.070(3), F.A.C., 40 CFR 60.36b and 40 CFR 60.55b]

DRAFT

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

{Note: The fugitive particulate matter control requirements for the ash handling activities specified in 40 CFR 60.55b and in this permit represent RACT for this facility pursuant to the Department's authority of **Rule 62-296.711(2)(c), F.A.C.**}

COMPLIANCE AND PERFORMANCE TESTING

- C.2 Fugitives Emissions Compliance: The compliance method for the ash handling facilities shall be EPA Method 22, Visual determination of Fugitives Emissions From Material Sources.
- (a) The minimum observation time will be three hours, and will include periods when ash is being transferred from the MWC unit to the storage area, and when ash is being loaded for disposal.
 - (b) Compliance testing for the Ash Handling Building vent, ash conveyor system, and the lime and carbon silos shall be conducted within 180 days of completion of construction and initial operation and annually thereafter, compliance testing for visible emissions shall be verified by annual tests following the date of completion of the initial stack test.
[Rule 62-4.070(3), F.A.C., 40 CFR 60.36b and 40 CFR 60.55b]
- C.3. Carbon and Lime Storage Silos PM Compliance Requirements: The PM compliance test requirements are waived for the lime and carbon storage silos and an alternate standard of 5 percent opacity shall apply. An annual visible emission test shall be performed for each silo during filling operations using EPA Method 9. A visible emission reading greater than 5 percent opacity does not create a presumption that the emission limit (in gr/dscf) is being violated, but may require the permittee to perform a particulate stack test.
[Rule 62-297.620(4), F.A.C.]

DRAFT

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION D. COMMON CONDITIONS:

The following specific conditions apply to the following emissions units after improvements to comply with 40 CFR 60 Subpart Cb are completed.

EMISSIONS UNIT NO.	EMISSIONS UNITS DESCRIPTION
001	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 1
002	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 2
003	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 3
004	120 mmBtu/hr (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit No. 4
006	Ash Building and Handling System
007	Lime Silo
008	Carbon Silo

OPERATIONAL REQUIREMENTS

- D.1 These emissions units are allowed to operate continuously (8760 hours/year).
[Rule 62-210.200, F.A.C. Definitions-Potential to emit (PTE)]
- D.2 Odor Control: No objectionable odors are allowed from this facility. The truck access doors to the facility shall remain closed except during normal working shifts when MSW is being received at the storage pit area. To minimize odors at the facility, a negative pressure shall be maintained on the tipping floor and air from within the building will be used as combustion air. **[Rule 62-296.320(2), F.A.C.]**
- D.3 Startup/Shutdown/Malfunctions
 - (a) In order to minimize excess emissions during startup/shutdown/malfunction these emissions units shall adhere to best operational practices to minimize emissions.

The duration of excess emissions from the lime silo or the carbon silo shall be minimized but in no case exceed 2 hours per occurrence
[Rule 62-210.700, F.A.C.]
 - (b) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

DRAFT

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

- (c) Within 90 days prior to operation of this facility, the permittee shall submit to the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) an operational procedures manual that identifies and describes best operational practices that will be used during startup, shutdown, and malfunctions of this facility.

EMISSION LIMITATIONS

- D.4 Facility Fugitive (Unconfined) Emissions: Fugitive emissions at this facility shall be adequately controlled at all times. All roads shall be adequately paved, and vacuum swept if appropriate, to keep free of visible dust. Speed limit signs shall be posted. Unprocessed refuse storage areas which must be open for operational purposes (e.g., tipping floor of the refuse bunker while trucks are entering and leaving) shall be under negative air pressure. [Rule 62-296.320(4)(c), F.A.C.]

COMPLIANCE AND PERFORMANCE TESTING

- D.5 Test Notification: The owner or operator shall notify the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC) in writing at least *30 days* (for the initial test) and *15 days* (for the annual tests) prior to each scheduled compliance test to allow witnessing. The notification shall include the compliance test date, place of such test, the expected test time, the facility contact person for the test, and the person or company conducting the test. The 30 or 15 day notification requirement may be waived at the discretion of the Department's Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC). Likewise, if circumstances prevent testing during the test window specified for the emissions unit, the owner or operator may request an alternate test date before the expiration of this window. [Rule 62-297.310 and 40 CFR 60.8, F.A.C.]
- D.6 Special Compliance Tests: When the Department, after investigation, has good reason (such as substantiated complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in Rule 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions units and to provide a report on the results of said tests to the Department's

DRAFT

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

Southwest District office (DEPSWD) and the Hillsborough County Environmental Protection Commission (HCEPC).

[Rule 62-297.310(7)(b), F.A.C.]

- D.7 Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit in operation at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. See also specific condition B.3 of this permit for limitations related to unit load for the MWC units.

[Rule 62-297.310(2) and (2)(b), F.A.C.]

RECORD KEEPING AND REPORTING REQUIREMENTS

- D.8 Emission Compliance Stack Test Reports:
[Rule 62-297.310(8), F.A.C., and 40 CFR 60.59(b)(f)]

- (a) A *test report* indicating the results of the required compliance tests shall be filed with the Department's Southwest District office (DEPSW) and the Hillsborough County Environmental Protection Commission (HCEPC) as soon as practical, but no later than 45 days after the last sampling run is completed.
- (b) The *test report* shall provide sufficient detail on the tested emissions unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.

SCHEDULE OF COMPLIANCE

- D.9 The compliance schedule for each unit is provided below. Activities related to this project shall follow the compliance schedule.

Increment 1: Submittal of a final control plan for the designated facility to the appropriate air pollution control agency. November 13, 1998, applicable to all units.

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SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

- Increment 2: Awarding of contracts for emission control systems or for process modifications, or issuance of orders for the purchase of component parts to accomplish emission control or process modification. July 13, 1999, applicable to all units.
- Increment 3: Initiation of on-site construction or installation of emission control equipment or process change. November 13, 1999, applicable to all units.
- Increment 4: Completion of on-site construction or installation of emission control equipment or process change. November 13, 2000, applicable to the first and second units. November 13, 2001, applicable to the third and fourth units. The order of the construction schedule (i.e. which units are the first and second, and third and fourth) will be identified in the final control plan.
- Increment 5: Final compliance. May 13, 2002, applicable to the first and second units. May 13, 2003 applicable to the third and fourth units. The order of final compliance (i.e. which units are the first and second, and third and fourth) will be identified in the final control plan.

Closure Agreement: No later than November 13, 2000, the City will cease operation of any unit that has not completed on-site construction or installation of emission control equipment and is not involved in performance testing. After closure, said units may commence startup, shakedown and performance/compliance testing per the closure agreement. Performance/compliance tests must be completed within 180 days of startup. [Rule 62-204.800(8)9.b., F.A.C.]

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
- (a) Have access to and copy and records that must be kept under the conditions of the permit;
 - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- (a) A description of and cause of non-compliance; and
 - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.10 The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- (a) Determination of Best Available Control Technology ()
 - (b) Determination of Prevention of Significant Deterioration (); and
 - (c) Compliance with New Source Performance Standards ().
- G.14 The permittee shall comply with the following:
- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - (c) Records of monitoring information shall include:
 - 1. The date, exact place, and time of sampling or measurements;
 - 2. The person responsible for performing the sampling or measurements;
 - 3. The dates analyses were performed;
 - 4. The person responsible for performing the analyses;
 - 5. The analytical techniques or methods used; and
 - 6. The results of such analyses.
- G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.